

No.

200100220



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

U.S. Department of Agriculture/Agriculture Research Service and
A.C. Agriculture Research Service

Whereas, THERE HAS BEEN PRESENTED TO THE

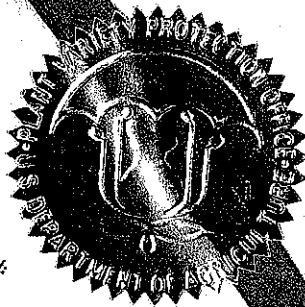
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE VARIETY. STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'NC-ROY'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelve day of September, in the year two thousand one.

Attest:

Paul M. Jarboe

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE (Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER ARS-U.S. Dept. of Agriculture and N.C. Agricultural Research Service		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME N94-552		3. VARIETY NAME NC-Roy	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Box 7643 N.C. State University Raleigh, NC 27695-7643		5. TELEPHONE (include area code) 919-515-2734		FOR OFFICIAL USE ONLY HYPO NUMBER 200100220	
		6. FAX (include area code) 919-856-4598		FILING DATE 6/13/01	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Agency of U.S. Government and State of North Carolina		8. IF INCORPORATED, GIVE STATE OF INCORPORATION		9. DATE OF INCORPORATION	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Joe W. Burton 3127 Ligon St. Box 7631 Raleigh, NC 27607				FILING AND EXAMINATION FEES: \$ 2,705.00 DATE 4/16/2001 CERTIFICATION FEE: \$ 320.00 DATE 9/14/01	
11. TELEPHONE (include area code) 919-515-2734		12. FAX (include area code) 919-856-4598		13. E-MAIL joe_burton@ncsu.edu	
14. CROP KIND (Common Name) Soybean		15. GENUS AND SPECIES NAME OF CROP Glycine max		16. FAMILY NAME (Botanical) Leguminosae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? FOUNDATION REGISTERED CERTIFIED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
			21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. FOUNDATION REGISTERED CERTIFIED <input type="checkbox"/> YES <input type="checkbox"/> NO (If additional explanation is necessary, please use the space indicated on the reverse.)		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					

SIGNATURE OF OWNER

NAME (Please print or type)

CAPACITY OR TITLE

SIGNATURE OF OWNER

NAME (Please print or type)

CAPACITY OR TITLE

DATE

Attachments to Application for Plant Variety Protection Certificate

18A.

1. "NC-Roy" was developed by Dr. J.W. Burton, Research Agronomist, USDA-ARS. NC-Roy is a high-yielding, virus resistant cultivar selected to provide a more productive alternative to available maturity group VI cultivars for both full-season and late-season planting. It is adapted to areas where soybean is produced in the U.S. between 33° and 37° N latitude.
2. NC-Roy previously identified as, N94-552, is an F₅ selection from the cross of cultivars 'Holladay' and 'Brim'. Holladay and Brim were crossed in 1990 at Clayton, NC, and the F₁ was grown at the USDA-ARS Tropical Agriculture Research Station (TARS), Isabella, PR, the following winter. The F₂, F₃, and F₄ plants were advanced using single seed descent at Clayton, NC in 1991, the following winter at TARS, and in 1992 at Clayton, NC, respectively. In 1993, individual F₅ plants were harvested at Clayton, NC. Approximately, 150 were selected for progeny increase and evaluation at Plymouth, NC in 1994. NC-Roy (N94-552) was identified as a promising breeding line and retested along with selected sister lines in 1995 at two NC locations. Thereafter, NC-Roy was tested at 10, 20, and 19 southern regional locations in 1996, 1997, 1998, and 1999, respectively, as part of the USDA Cooperative Uniform Soybean Yield Trials. NC-Roy was also yield tested in 17 North Carolina environments by the North Carolina Official Variety Testing Program in 1998 and 1999.
3. In five years of testing and increase, yield performance was at least comparable to released cultivars.
4. Off-type hila color (slightly darker or lighter) can occur at a rate less than 2%.

18B.

NC-Roy has yellow seed, buff hila, white flowers, gray pubescence and determinate growth habit. NC-Roy is resistant to soybean mosaic virus but susceptible to the cyst (*Heterodera glycines*) and root knot (*Meloidogyne*) species of nematode. NC-Roy matures approximately the same day as the cultivar Boggs, in full season plantings and is adapted to similar latitudes (approximately 33°-37° North). In the Regional USDA Cooperative Uniform Yield Trials on the Atlantic Coast (8 locations, 1997-1999) it produced 7% more yield than Dillon and 8% more than Boggs in wide-row (95 cm) spacings and full season conditions. In all of the USDA Regional Preliminary and Uniform VI Trials from 1996 to 1999 (68 environments), average yield of NC-Roy was 5% higher yielding than the cultivar Dillon. In the North Carolina Official Variety Test, averaged over 17 environments in two years, NC-Roy yielded 15% more than the cultivar, Pioneer 9692.

NC-Roy was 2.5 cm taller than Boggs in the USDA Regional Uniform Trials and seeds were slightly smaller (0.5 gm per 100 seeds) than those of Boggs. In those same trials, seed protein concentration was 0.5 percentage points lower than Boggs, and oil concentration was one percentage lower. Please see attached tables 1, 2, 3, 4, and 5.

18.C See attached form

18.D None

18.E. See attached form



PV# 200100220

United States Department of Agriculture
Agricultural Research Service
Soybean & Nitrogen Fixation Unit

August 10, 2001

SUBJECT: Statement of Distinctness for NC-Roy

TO: Beretha Thornton

FROM: Joe Burton

A handwritten signature in dark ink, appearing to read "JB", is written over the printed name "Joe Burton".

'NC-Roy' is most similar to soybean varieties 'Dillon' and 'Boggs'. However, 'NC-Roy' has green hypocotyls, ^{white (BT-8) pod per applicant's permission} ~~purple~~ flowers, and brown pods, whereas 'Dillon' has light purple hypocotyls, purple flowers, and tan pods. Seeds of 'NC-Roy' have buff-hila, whereas seeds of 'Boggs' have black hila.

With regard to A7258, NC-Roy differs in disease reaction to stem canker. In the USDA Regional Tests from 1996-1999, NC-Roy was found to be susceptible to stem canker each year. I understand that A7258, is resistant to stem canker.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S) Joe Burton	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 3127 Ligon Street Box 7631 Raleigh, NC 27607	PYRO NUMBER 200100220
	VARIETY NAME NC-Roy
	TEMPORARY OR EXPERIMENTAL DESIGNATION N94-552

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

9	9	9	or	0	9
---	---	---	----	---	---

Place a zero in the first box (e.g.,) when number is either 99 or less or 9 or less respectively. Data for quantitative

plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal

Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

2

1 = Spherical
(L/W, L/T, and T/W ratios < 1.2)

2 = Spherical-Flattened
(L/W ratio > 1.2; L/T ratio < 1.2)

3 = Elongate
(L/T ratio > 1.2; T/W ratio < 1.2)

4 = Elongate-Flattened
(L/T ratio > 1.2; T/W ratio > 1.2)

Seed Coat Color:

1

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other
(Please Specify)

Seed Coat Luster:

1

1 = Dull

2 = Shiny

Seed Size:

1	3
---	---

grams/100 seeds

Hilum Color:

1

1 = Buff
6 = Black

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

7 = Other (Please Specify)

A. MORPHOLOGY (Continued)

Cotyledon Color:

1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

1 = Low 2 = High

Hypocotyl Color:

1 = Green 2 = Green with Bronze 3 = Light Purple 4 = Dark Purple extending to
('Evans' or 'Davis') Bands below Cotyledons below Cotyledons unifoliate leaves ('Hodgson',
('Woodworth' or 'Tracy') ('Beeson' or 'Pickett 71') 'Coker', or 'Hampton 266A')

Leaflet Shape:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Please Specify)

Flower Color:

1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

1 = Tan 2 = Brown 3 = Black

Pubescence Color:

1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

1 = Determinate 2 = Semi - Determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

<input type="text" value="0"/>	<input type="text" value="9"/>	1 = 000	2 = 00	3 = 0	4 = I	5 = II
		6 = III	7 = IV	8 = V	9 = VI	10 = VII
		11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

Maturity Subgroup:

Please enter a value from 0 - 9

B. DISEASE REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

Fungal

200100220

☐ 0 Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leaf Spot (*Cercospora sojina* Hara)

<input type="checkbox"/> 0 race 1	<input type="checkbox"/> 0 race 2	<input type="checkbox"/> 0 race 3	<input type="checkbox"/> 0 race 4
<input type="checkbox"/> 0 race 5	<input type="checkbox"/> 0 race 6	<input type="checkbox"/> 0 Other (Please Specify)	

☐ 0 Target Spot (*Corynespora cassicola* (Berk. & Curt.) Wei)

☐ 0 Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

☐ 0 Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

☐ 0 Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

1 ☒ 0 Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

EST: 8/13/2001 corrected per applicant's request

☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

☐ 0 Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))

<input type="checkbox"/> 0 race 1	<input type="checkbox"/> 0 race 8	<input type="checkbox"/> 0 race 15	<input type="checkbox"/> 0 race 22
<input type="checkbox"/> 0 race 2	<input type="checkbox"/> 0 race 9	<input type="checkbox"/> 0 race 16	<input type="checkbox"/> 0 race 23
<input type="checkbox"/> 0 race 3	<input type="checkbox"/> 0 race 10	<input type="checkbox"/> 0 race 17	<input type="checkbox"/> 0 race 24
<input type="checkbox"/> 0 race 4	<input type="checkbox"/> 0 race 11	<input type="checkbox"/> 0 race 18	<input type="checkbox"/> 0 race 25
<input type="checkbox"/> 0 race 5	<input type="checkbox"/> 0 race 12	<input type="checkbox"/> 0 race 19	<input type="checkbox"/> 0 race 26
<input type="checkbox"/> 0 race 6	<input type="checkbox"/> 0 race 13	<input type="checkbox"/> 0 race 20	<input type="checkbox"/> 0 Other (Please Specify)
<input type="checkbox"/> 0 race 7	<input type="checkbox"/> 0 race 14	<input type="checkbox"/> 0 race 21	

☐ 0 Bud Blight (Tobacco Ringspot Virus)

☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)

B. DISEASE REACTIONS (*Continued*) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Cowpea Mosaic (Cowpea Chlorotic Virus)

Pod Mottle (Bean Pod Mottle Virus)

Seed Mottle (Soybean Mosaic Virus)

200100220

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

<input type="text" value="0"/> race 1	<input type="text" value="0"/> race 4	<input type="text" value="0"/> race 9
<input type="text" value="0"/> race 2	<input type="text" value="0"/> race 5	<input type="text" value="1"/> race 14
<input type="text" value="1"/> race 3	<input type="text" value="0"/> race 6	<input type="text" value="0"/> Other (<i>Please Specify</i>)

Lance Nematode (*Hoplolaimus columbus* Sher)

Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)

Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

Other Nematode (*Please Specify*)

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Iron Chlorosis on Calcareous Soil

Phosphorus Other (*Please Specify*) _____

Boron

Aluminum

Salt

Drought

D. INSECT REACTIONS

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

Mexican Bean Beetle (*Epilachna varivestis* Mulsant)Potato Leaf Hopper (*Empoasca fabae* (Harris))

200100220

Other (Please Specify)

E. HERBICIDE REACTIONS

0 = Not Tested

1 = Susceptible

2 = Resistant

Metribuzin

Bentazone

Sulfonylurea

Glyphosate

Glufosinate

Pendimethalin

Other (Please Specify)

F. TRANSGENIC COMPOSITION

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?

If yes, please complete the following information requests*. Use additional pages if necessary.

☐

YES

☒

NO

1. Please state the vector's name:

2. Please state the vector components:

3. Please describe the genetic material successfully transferred into the subject variety:

4. Please describe the insertion protocol:

* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

G. BIOCHEMICAL MARKERS

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (e.g. Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

Table 1. Average yield performance of N94-552 (NC-Roy) and check cultivars in 1996-1999 USDA Uniform Soybean Test.

Year	No. of Locations	Brim	Dillon	Boggs	N94-552	LSD _{.05}
				-----bu/A-----		
1996	10	46.4	45.9		48.5	3.7
1997	20	47.2	46.5	49.0	48.2	2.3†
1998	19		38.4	40.7	40.1	2.5†
1999	19		43.0	43.8	46.0	2.8†

†An approximate LSD_{.05} for the experiments in which these lines were tested.

Table 2. Mean seed yield (bu/A) of Boggs and N94-552 (NC-Roy) in the USDA Uniform VI Tests for 1997 and 1999 by region.

	No. of Tests	Boggs	N94-552	No. of tests where N94-552 ranked higher
East Coast	8	39.4	42.7	6
South	30	44.6	43.4	11
Delta	11	44.3	45.4	6
West	8	49.4	49.2	4

Table 3. Mean seed yield (bu/A) of Boggs, Dillon, and N94-552 (NC-Roy) in the USDA Uniform VI Test (1997-1999) at Plymouth, NC.

	1997	1998	1999	Mean
Dillon	57.9	45.0	33.4	45.4
Boggs	57.7	51.3	26.4	45.1
N94-552	51.8	53.6	40.6	48.7
LSD _{.05}	7.6	4.8	3.8	

Table 4. Agronomic characteristics and seed composition of Dillon, Boggs, and N94-552 (NC-Roy) in the USDA Uniform Soybean Tests (1997-1999).

	Seed size g/100 seeds	Quality†	Protein -----%-----	Oil -----%-----	Plant height -in.-	Lodging‡	Date of maturity
Dillon	14.4	2	42.2	19.9	33	1.7	10/13
Boggs	13.3	2	42.9	19.9	31	2.3	10/18
N94- 552	12.8	2	42.6	18.9	34	2.0	10/18

†Seed quality scored on a scale of 1 (very good) to 5 (very poor).

‡ Score from 1 to 5, standing straight to completely fallen.

Table 5. Average yield of N94-552 (NC-Roy) and 5 highest yielding varieties in the 1998 and 1999 N.C. Official Variety Test for maturity group VI.

	1998		1999	
	Early planted†	Late Planted‡	Non-stressed§	Stressed#
N94-552	51	44	51	28
FFR688	47	42	47	26
Hartz 6686	44		46	25
Hartz 6255	46		41	21
Asgrow 6297	44		44	25
Pioneer 9692	46	40	44	20
BLSD	5	13	6	6

†Average of 6 locations

‡Average of 3 locations

§Average of 5 locations; tests averaged > 25 bu/Acres

#Average of 3 locations; tests averaged ≤ 25 bu/Acres

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) USDA-Agricultural Research Service and N.C. Agriculture Research Service	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER N94-552	3. VARIETY NAME NC-Roy
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) N. C. State University Box 7643 Raleigh, NC 27695	5. TELEPHONE (Include area code) (919) 515-2734	6. FAX (Include area code) (919) 856-4598
	7. PVPO NUMBER 200100220	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

N/A ☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

N/A ☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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